



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,562	04/04/2006	Makihito Ootaha	Q94297	1891
23373 7590 11/25/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
ENIN-OKUT, EDUE				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
11/25/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com
PPROCESSING@SUGHRUE.COM
USPTO@SUGHRUE.COM

Office Action Summary

Application No.

10/574,562

Applicant(s)

OTOHATA ET AL.

Examiner

Edu E. Enin-Okut

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 8-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

FILM-CLAD BATTERY AND METHOD OF PRODUCING FILM-CLAD BATTERY

Detailed Action

1. The amendments filed on August 26, 2009 were received. Applicants have amended claims 1 and 5. Currently, claims 1-7 are pending.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. The rejection of claims 1-7 under 35 U.S.C. 102(b) as being anticipated by Takahiro (JP 2002-319374 A) is withdrawn because claims 1 and 5 were amended.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahiro (JP 2002-319374 A; refer to JPO Abstract and machine translation) in view of Yamazaki et al. (US 6,632,538).

Regarding claims 1 and 6, Takahiro teaches a package 20 for sealed cells that consists of metal resin composition films 21 and 22 (film covered battery) (machine translation, para. 13). The power generation element 11 possesses a negative electrode facing a positive electrode separated via a separator (machine translation, para. 11; Fig. 1). A package 20 (covering film) consisting of metal resin films 21 and 22 and that metal resin films 21 and 22 are comprised of metallic foil 27 (thin metal film layer) and resin layer 29 (heat seal resin) located on the inside of the metallic foil 27 (thin metal film layer) (machine translation, para. 15; Fig. 4).

The heating of three neighborhoods 20A, 20B, and 20C (joint section) of the piled metal resin compound films 21 and 22 (laminates) results in the bonding of resin layer 29 of film 21 with resin layer 29 of film 22, thus encapsulating the power generation element 11 (battery element) (machine translation, para. 13; Fig. 1). A metal resin battery package 20 (film covered battery) that is heated on three sides, corresponding to neighborhoods 20A, 20B, and 20C (joint section), to create a sealed type cell for storing a power generation element 11 (Abstract; machine translation, para. 4, 13; Fig. 1), which is equivalent to applicants' heat sealing a joint section along a peripheral edge

The reference also teaches the ending of the welded section 55 as shown in Fig. 7(B) (machine translation, para. 6; Fig. 7(B)), which is the equivalent of applicants' joint section having at least one folded side. The neighborhoods 20A and 20B, of the joint section, have notches 30 (folds/grooves) are located on each side of the package 20 (machine translation, para. 17-18; Fig. 3, 5(A)), which is equivalent applicants joint section formed with at least one fold or a plurality of grooves (folds) in at least one side of joint section. The notch part 30 (fold/groove) is in perforated form in the neighborhoods 20A and 20B of the joint section (machine translation, para. 13-17). Consequently, the notch part 30

Art Unit: 1795

(fold/groove) has a thickness that is smaller than a thickness around the notch part 30 (fold) due to perforations made in the neighborhoods 20A and 20B of the joint section that correspond to the notch part 30 (machine translation, para. 16-17; Fig. 3, 5(A)). Weld cost 25 and 26, formed by heating the three neighborhoods 20A, 20B, and 20C of the joint section, are bent along the side of the seat part 23 by the notch part 30(fold) (machine translation, para. 13; Fig. 1).

However, Takahiro does not expressly teach that the fold has a thickness of the heat-seal resin layer smaller than a thickness of the heat-seal resin layer around it.

Yamazaki teaches a battery case containing a battery with tabs projecting outside from the case (1:43-45). The battery case is composed of a first base film and a heat-adhesive resin layer formed on the inner side of the base film (1:40-42). The side peripheral parts of the case are sealed and the barrier property of the heat-adhesive resin layer may be improved by reducing the thickness of the adhesive layer as shown in Fig. 73(a) (88:8-11, 88:27-29; Fig. 73(a)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention form the fold in the battery of Takahiro with a thickness of the heat-seal resin layer smaller than a thickness of the resin layer around it by reducing the heat-seal resin layer in the manner described by Yamazaki because Yamazaki teaches that this can improve the barrier properties of the case.

Regarding claim 2, Takahiro teaches the notch 30 (fold) is a groove (machine translation, para. 16-17; Fig. 5(A)).

Regarding claim 3, Takahiro teaches the notch part 30 (fold/groove) is in perforated form in the neighborhoods 20A (left side) and 20B (right side) of the joint section (machine translation, para. 13-17; Fig. 3), which is equivalent to applicants' groove formed in at least one side of joint section.

Regarding claims 4 and 5, Takahiro also teaches three neighborhoods 20A, 20B, and 20C (joint section) (machine translation, para. 13; Fig. 3). The weld costs 25, 26, and 27, created by heating the three neighborhoods (joint section), are located in neighborhoods 20A, 20B and 20C (joint section),

Art Unit: 1795

respectively. The weld costs 25 and 26 are bent along the side of the seat part 23 by the notch part 30 (fold) on the sides corresponding to neighborhoods 20A and 20B (machine translation, para. 13; Fig. 1), which is equivalent to applicants' plurality of folds formed in joint section such that the joint section is folded along each of the folds.

Regarding claim 7, Takahiro teaches sealed battery 10 (chemical battery) provided with the power generation element 11 (battery element) (machine translation, para. 11).

Response to Arguments

7. Applicant's arguments with respect to claims 1-7, filed on August 26, 2009, have been considered; however, applicant has amended the claims such that new grounds of rejection were necessitated.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Edu E. Enin-Okut** whose telephone number is **571-270-3075**. The examiner can normally be reached on Monday to Thursday, 7 a.m. - 3 p.m. (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edu E. Enin-Okut/
Examiner, Art Unit 1795

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795